FIG. 1

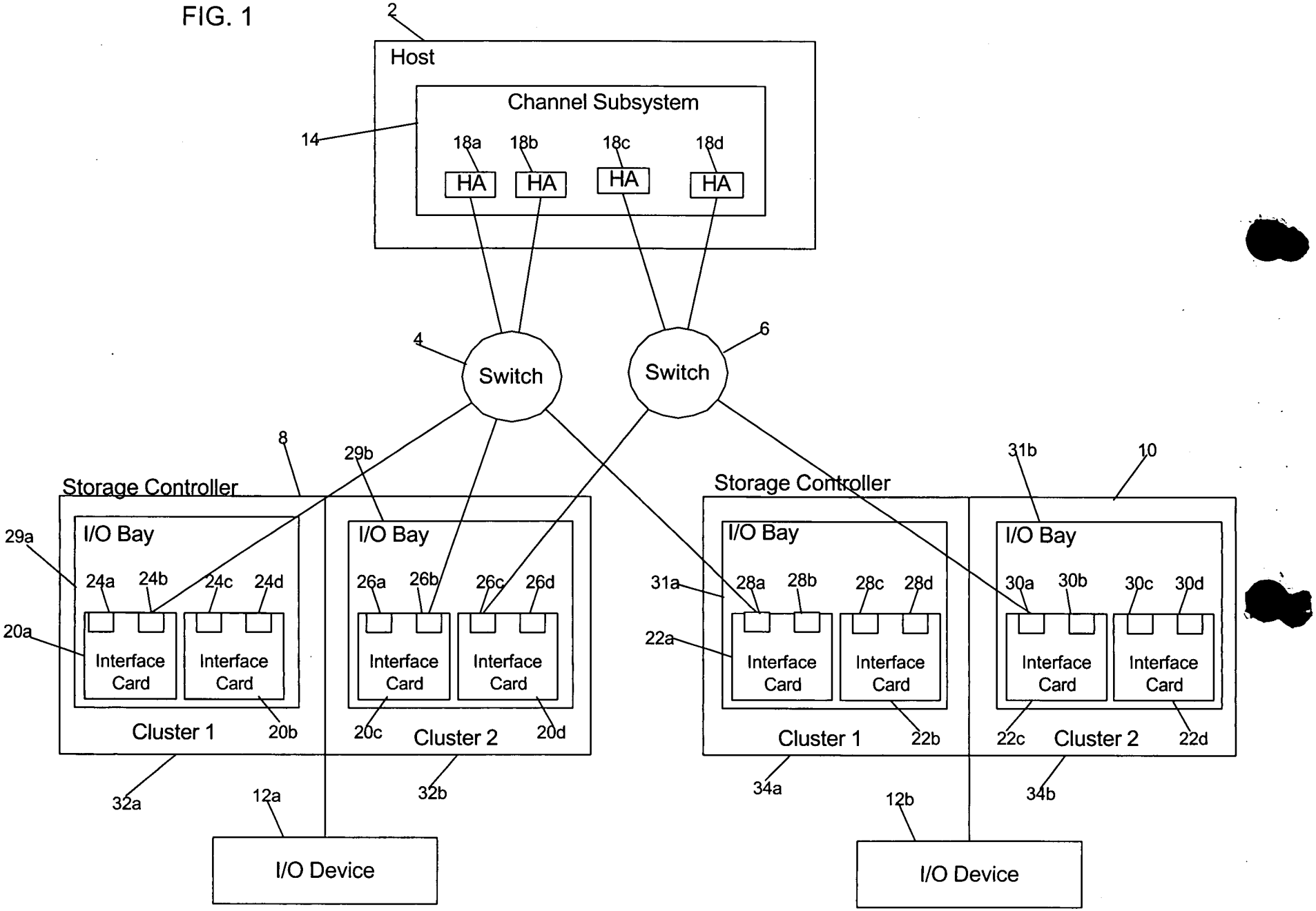

2
Host
Channel Subsystem
14
18a
18b
18c
18d
HA
HA
HA
HA
4
Switch
6
Switch
8
29b
31b
10
Storage Controller
Storage Controller
29a
I/O Bay
I/O Bay
I/O Bay
I/O Bay
24a
24b
24c
24d
26a
26b
26c
26d
31a
28a
28b
28c
28d
30a
30b
30c
30d
20a
22a
Interface Card
Interface Card
Interface Card
Interface Card
Interface Card
Interface Card
Interface Card
Interface Card
Cluster 1
20b
20c
Cluster 2
20d
Cluster 1
22b
22c
Cluster 2
22d
32a
12a
32b
34a
12b
34b
I/O Device
I/O Device

FIG. 2

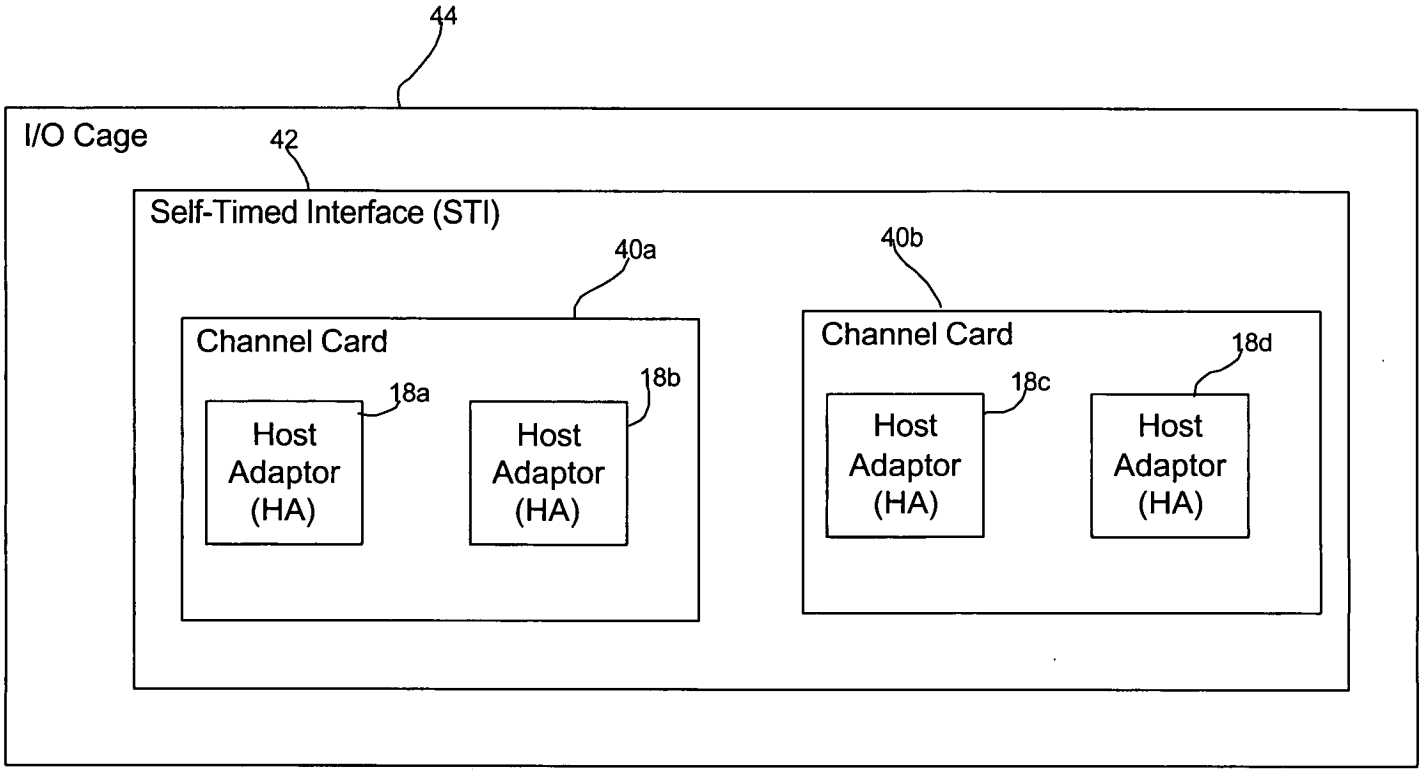

44
I/O Cage
42
Self-Timed Interface (STI)
40a
40b
Channel Card
Channel Card
18a
18b
18c
18d
Host Adaptor (HA)
Host Adaptor (HA)
Host Adaptor (HA)
Host Adaptor (HA)

FIG. 3

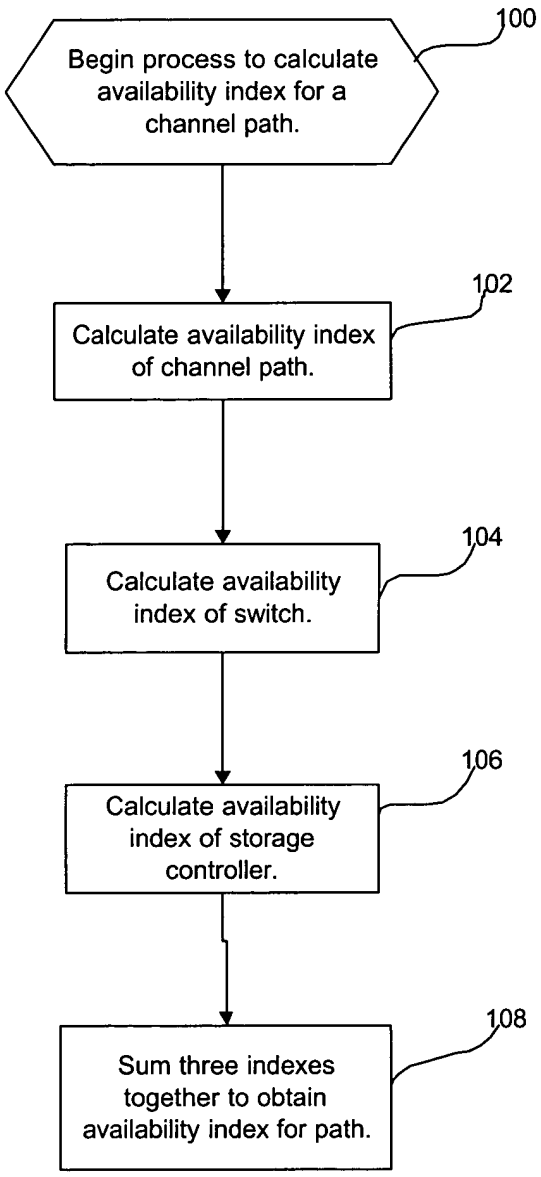
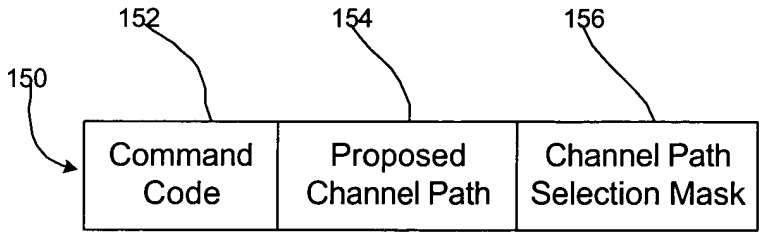
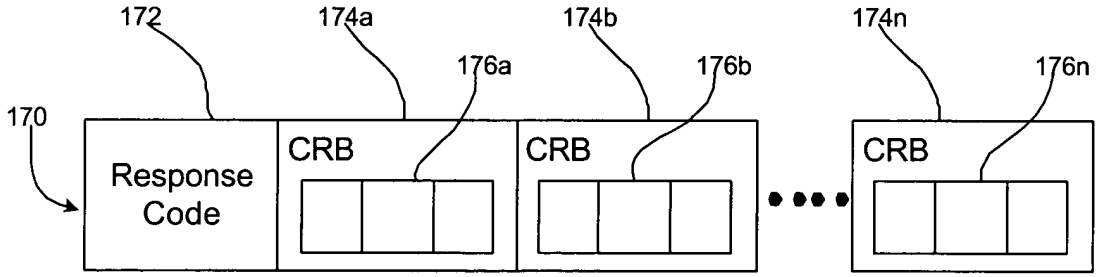

Begin process to calculate availability index for a channel path.
100
Calculate availability index of channel path.
102
Calculate availability index of switch.
104
Calculate availability index of storage controller.
106
Sum three indexes together to obtain availability index for path.
108

FIG. 4



Compare Channel Components Command

FIG. 5



Response Block

FIG. 6

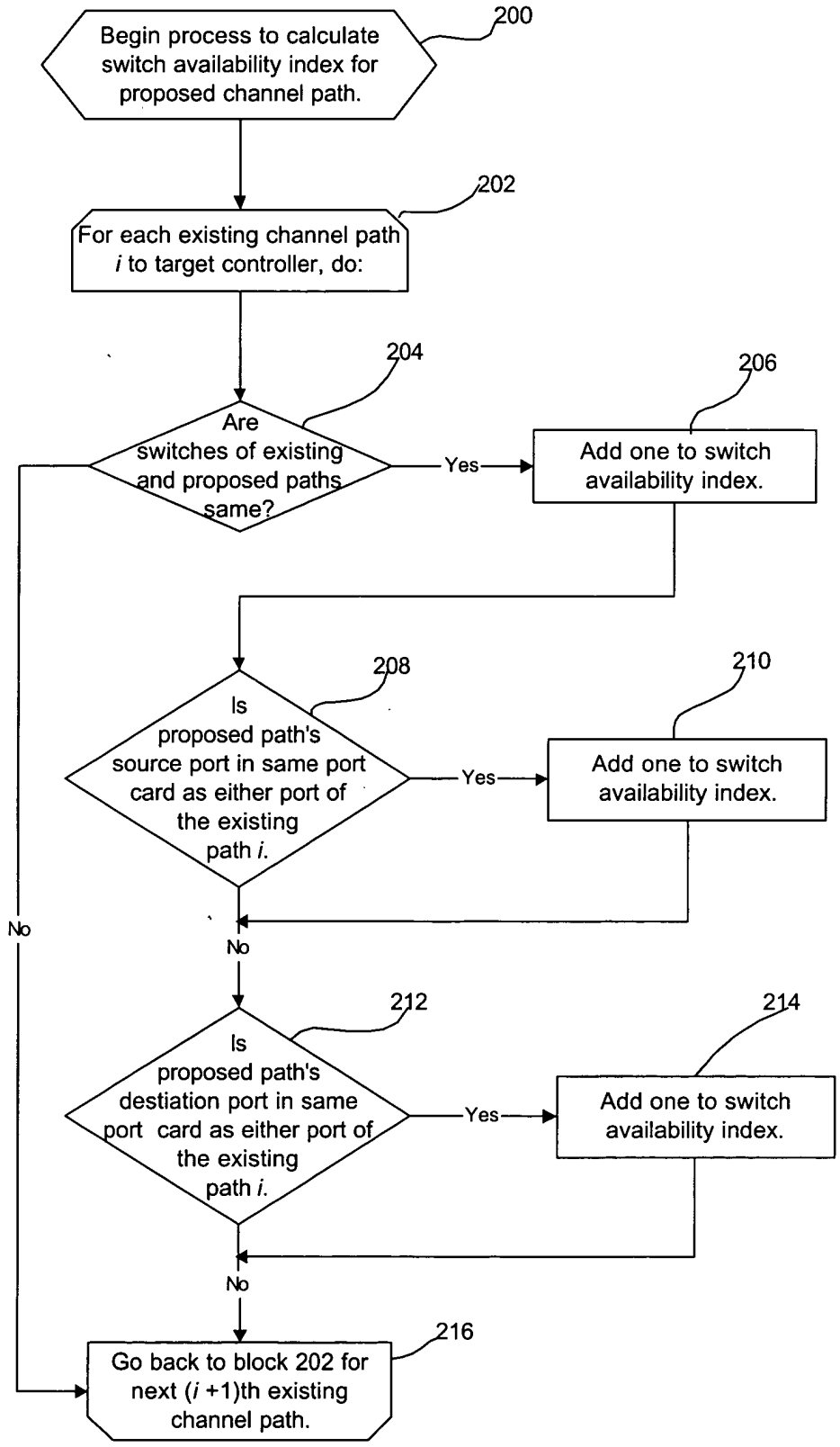

Begin process to calculate switch availability index for proposed channel path.
200
For each existing channel path i to target controller, do:
202
Are switches of existing and proposed paths same?
204
Yes
Add one to switch availability index.
206
No
Is proposed path's source port in same port card as either port of the existing path i.
208
Yes
Add one to switch availability index.
210
No
Is proposed path's destiation port in same port card as either port of the existing path i.
212
Yes
Add one to switch availability index.
214
No
Go back to block 202 for next (i +1)th existing channel path.
216

FIG. 7

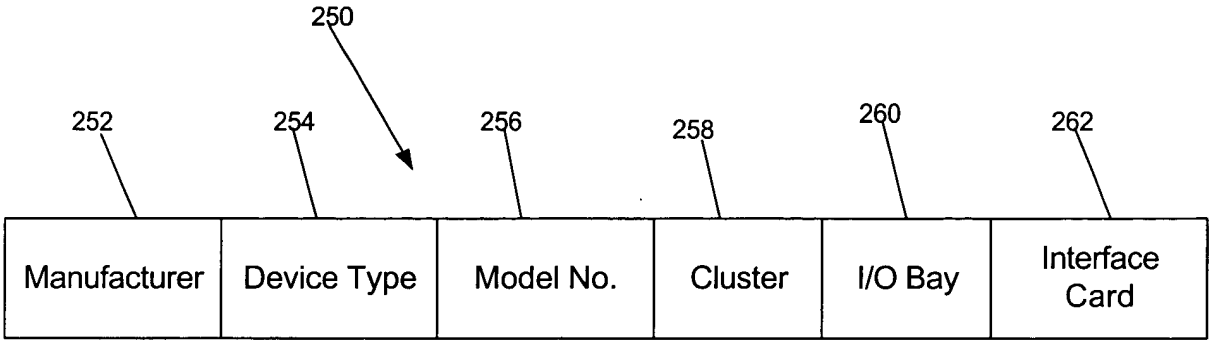


FIG. 8

300

308 Manufacturer	310 Device Type	312 Model No.	302 Cluster Mask	304 I/O Bay Mask	306 Interface Mask
IBM	3990	006	00F0	00FC	0000
IBM	3990	G03	00F0	00FC	0000
IBM	3990		00F0	00FC	0000
IBM	2105		0080	00E0	00FC
IBM			0080	00E0	00FC
ABC	3990	03	00F0	00FC	0000
			00F0	00FC	0000

324
328
330

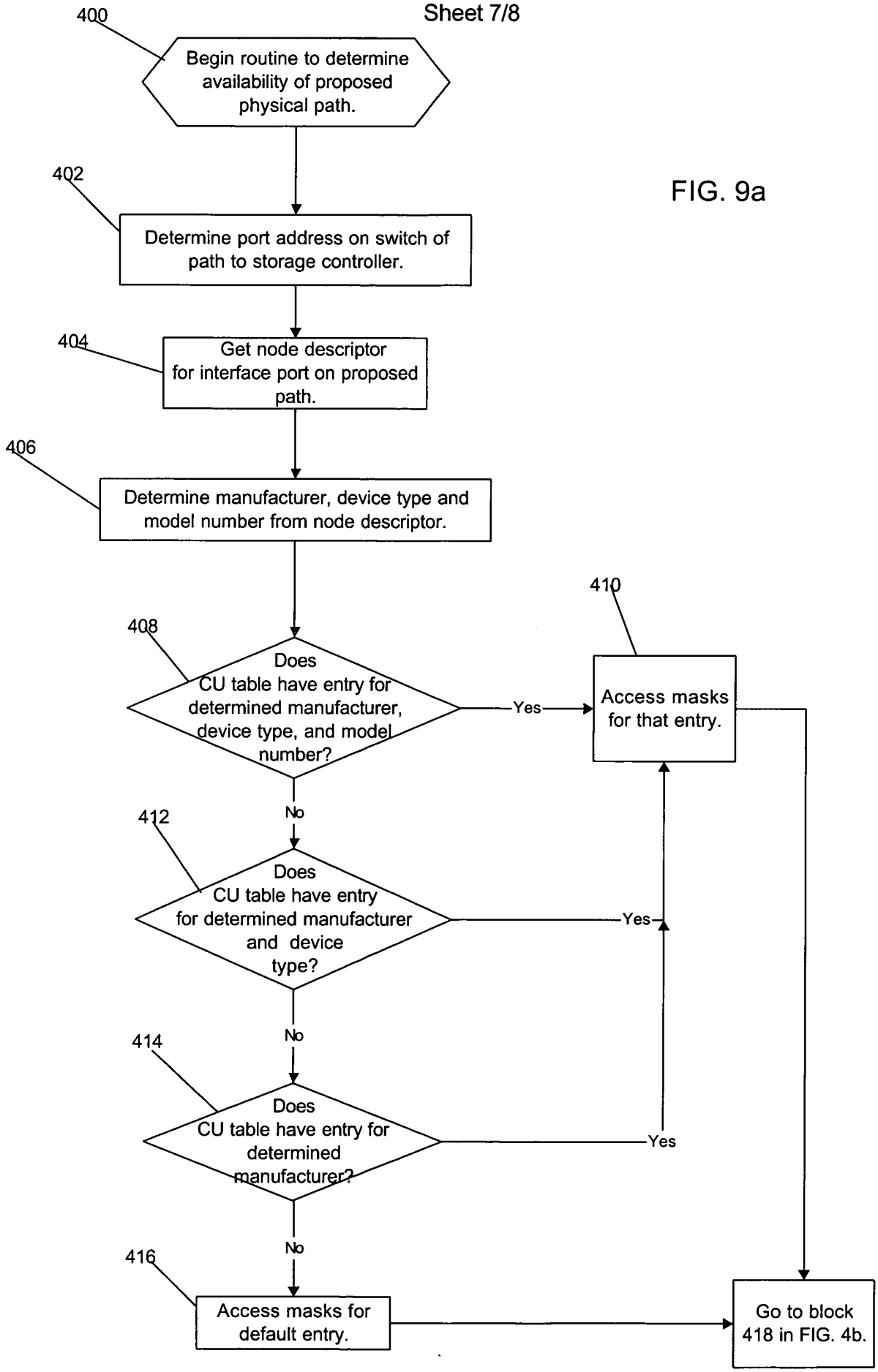
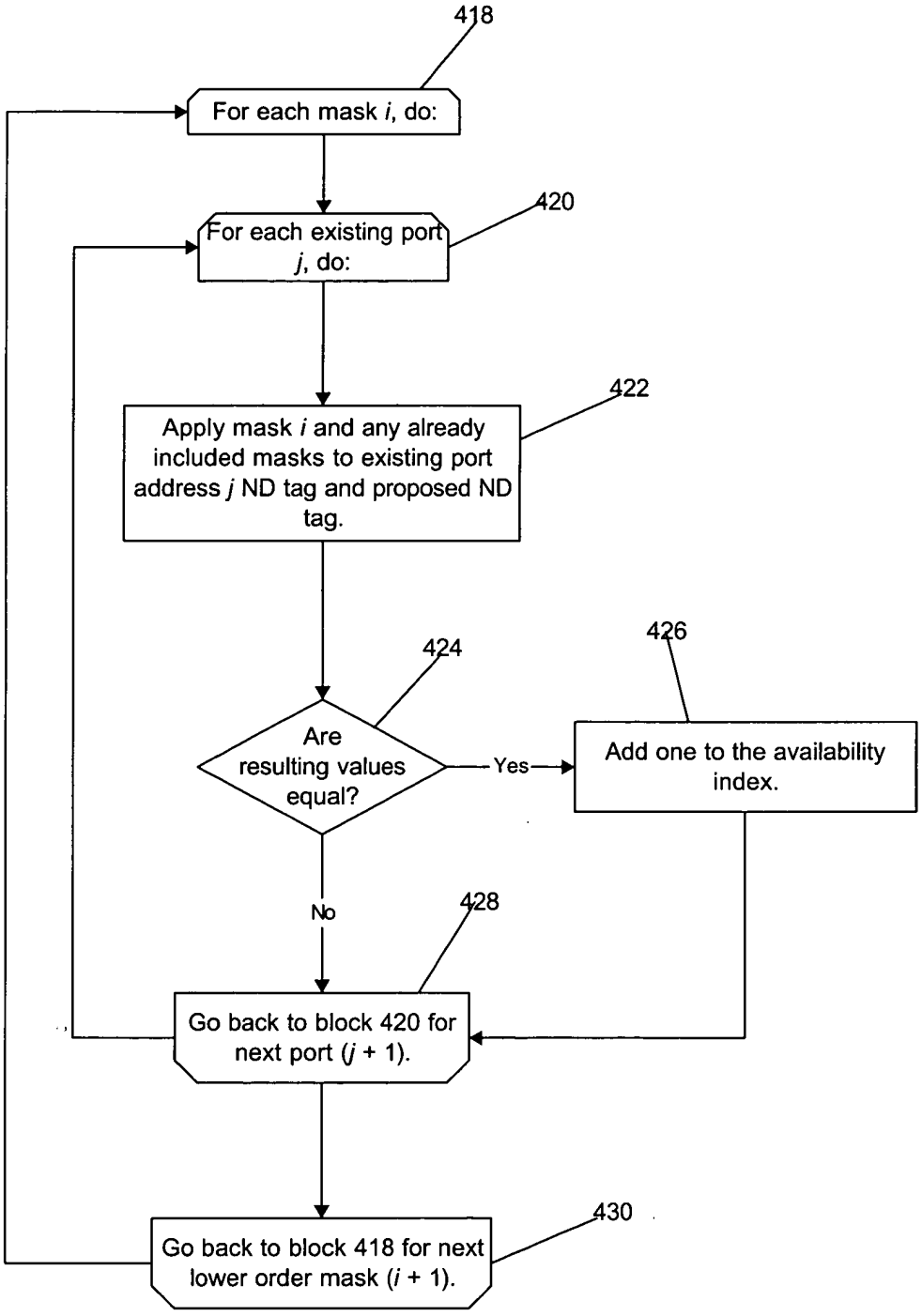

400
Begin routine to determine availability of proposed physical path.
402
Determine port address on switch of path to storage controller.
404
Get node descriptor for interface port on proposed path.
406
Determine manufacturer, device type and model number from node descriptor.
408
Does CU table have entry for determined manufacturer, device type, and model number?
Yes
410
Access masks for that entry.
No
412
Does CU table have entry for determined manufacturer and device type?
Yes
No
414
Does CU table have entry for determined manufacturer?
Yes
No
416
Access masks for default entry.
Go to block 418 in FIG. 4b.

FIG. 9a

FIG. 9b


418
For each mask i, do:
420
For each existing port j, do:
422
Apply mask i and any already included masks to existing port address j ND tag and proposed ND tag.
424
Are resulting values equal?
Yes
426
Add one to the availability index.
No
428
Go back to block 420 for next port (j + 1).
430
Go back to block 418 for next lower order mask (i + 1).